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REMARKS

Claims 1-36 were pending in the present application. Claim 37 has been added, leaving Claims 1-37 for consideration in the present amendment. No new matter has been entered because of these amendments. For example, Claim 37 combines all of the features of Claims 1 and 6.

Reconsideration and allowance of the claims is respectfully requested in view of the following remarks.

Claim Rejections Under 35 U.S.C. §102(b)

Claims 1, 3-4, 9, 11, 14, 16-17, 19-20, 25-26, and 28 stand rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 4,922,099 to Masuda et al. (hereinafter "Masuda"). Applicants respectfully traverse.

Masuda generally describes electric field devices. The Examiner describes Masuda's electric field devices as an "open ended cylindrical body (28) having a gas inlet (89) at one end, and an outlet (95) at an other end and at least one conductive [fiber] (66 or 67 or 68 or 3-5) secured to the body (96) and positioned to enhance an applied electric field, wherein the at least one conductive fiber is free from connection to a voltage power." To support the allegation that Masuda teaches at least one conductive fiber free from connection to a voltage power source, the Examiner refers to Figure 1F as describing "the voltage source (19) is only connected to electrode 5 and 9. In addition, the Examiner refers to Figures 19-22, col.15, lines 4-68, col. 16, lines 1-53."

Claim 1 is directed to a plasma tube comprising an open ended cylindrical body, wherein the body includes a gas inlet at one end, and an outlet at an other end; and at least one conductive fiber secured to the body and positioned to enhance an electric field, wherein the at least one conductive fiber is free from connection to a voltage power source. Claim 14 is directed to a plasma tool comprising, *inter alia*, a plasma tube having at least one conductive fiber is free from connection to a voltage power source. Independent Claim 25 is directed to a process for reducing the electric field breakdown point of a gas comprising, *inter*

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alia, securing a conductive fiber to a surface of a plasma tube, wherein the plasma tube comprises an open ended cylindrical body, wherein the body includes a gas inlet at one end, an outlet at an other end, and at least one conductive fiber in contact with the body and positioned to enhance an electric field, wherein the at least one conductive fiber is free from connection to a voltage power source.

To anticipate a claim under 35 U.S.C. §102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Bartlett, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1007 (1988).

Masuda fails to anticipate independent Claims 1, 14, and 25 because Masuda fails to disclose, *inter alia*, at least one conductive fiber is free from connection to a voltage power. The Examiner is technically wrong in stating that Masuda teaches an electric field device that has at least one conductive fiber is free from connection to a voltage power. All of Masuda's electrodes in its electric field devices are directly or indirectly connected to a voltage power source. In order for Masuda's electric field devices to function, there must be a voltage source in electrical communication with the electrodes disposed in the electric field devices.

The Examiner initially refers to Figure 1F as supporting his conclusion. Figure 1F is the last Figure in a series of drawings (Figures 1A-1F) illustrating different views of the same electric field device. As noted by Masuda in its description of the drawings, "Fig. 1F is a transverse cross-section view of the structure shown in Fig. 1E." Although the cross sectional view makes it appear that some of the electrodes are free from connection to a voltage power source, this is clearly not the case when considering all of the other views. As clearly shown in the perspective view of Figure 1E, electrodes 4, 5, and 6 are electrically connected in parallel with one another. Thus, by connecting one of the electrodes to a voltage power source, all of the electrodes 4, 5, and 6 are in electrical communication with the voltage power source. In contrast, Applicants claims include, *inter alia*, at least one conductive fiber is free from connection to a voltage power source. Even without direct connection to a voltage source, Applicants conductive fibers function by enhancing the electric field locally.

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The Examiner also refers to Figures 19-22 for providing support that all of Applicants' claim elements are disclosed, including the feature of at least one conductive fiber is free from connection to a voltage power source. However, similar to that shown in Figure 1 F, all of the electrodes in the electric field device are connected to voltage power source. The only difference is that the electric field device has a cylindrical shape as opposed to the planar electric field device of Figures 1A-1F. Having each electrode connected to a voltage power source makes sense since Masuda is directed to electric field devices and rely on energizing the electrodes to produce the electric field. As such, in order for the electric field device to function it must be connected to an external power source. In Figures 19-22, each one of the electrodes (66, 67, and 68 as referred to by the Examiner and shown in Figures 19-22) is illustrated as being connected to a voltage power source 70. Moreover, as described in Masuda's specification, "...a three phase A.C. voltage power source 70 are applied to said electrodes by way of terminal conductor parts 66, 67, and 68,..." (see Col. 15, ll. 18-25). Thus, Masuda's electric field device fail to teach at least one conductive fiber is free from connection to a voltage power.

In view of the foregoing, the Examiner's technical assessment of what Masuda actually teaches is clearly and unequivocally wrong. Masuda fails to teach at least one claim element, e.g., the feature of at least one conductive fiber that is free from connection to a voltage power source or a conductive fiber positioned to enhance an electric field, and thus, fails to anticipate any of the claims that include this feature. Accordingly, the rejection is improper and should be withdrawn for at least these reasons.

As all elements of independent Claims 1, 14, and 25 clearly have not been disclosed, these claims are patentable over the cited reference. Given that Claims 3-4, 9, 11, 16-17, 19-20, 26, and 28 each further limit and ultimately depend from one of these independent claims, they too are patentable.

In view of the foregoing, new Claim 37 is not anticipated by Masuda because Masuda fails to teach, *inter alia*, at least one conductive fiber free from connection to a voltage source.

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Claim Rejections Under 35 U.S.C. §103(a)

Claims 2, 5-8, 10, 12-13, 15, 18, 20-24, 27, and 29-36 stand rejected under 35 U.S.C. §103(a), as allegedly unpatentable by Masuda. Applicants respectfully traverse these rejections.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The Examiner has failed to meet these criteria.

Applicants assert that a prima facie case of obviousness has not been made against Claims 2, 5-8, 10, 12-13, 15, 18, 20-24, 27, and 29-36. A prima facie case has not been established because Masuda fails to teach or suggest a plasma tube including the feature of at least one conductive fiber secured to the body and positioned to enhance an applied electric field, wherein the at least one conductive fiber is free from a connection to a voltage power source. Nowhere in Masuda does it even suggest his invention could work without direct connection to a voltage source. Moreover, Masuda fails to teach or suggest that its electrodes enhance the electric field as claimed by Applicants.

As discussed above, Masuda teaches and suggests that every electrode in its electric field device is connected to a voltage power source. Thus, Masuda fails to teach or suggest all of the claim limitations. It should also be pointed out that simply turning off Masuda's electric field devices does not remove its connection to the voltage power source as alluded to during discussions with the Primary Examiner. The reference must teach or suggest all of the claim limitations. Masuda fails to teach all of the claim limitations.

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With reference to the Examiner's comments regarding claims 20 and 26, Masuda does not disclose light being focused. The Examiner is requested to carefully read the reference prior to making erroneous statements regarding the technology that serve as a basis for his rejections.

The Examiner has also failed to show that Masuda contains some suggestion or motivation to modify its electric field device so that there is at least one conductive fiber in its electric field device that is free from a connection to a voltage power source. Applicants have carefully studied Masuda and can find no such suggestion or motivation. Masuda is generally directed to electric field devices that require a voltage source to be connected to each of its electrodes for its invention to function as intended i.e., function as an electric field device. Each of the electrodes in the electric field device produces an electric field through a dielectric upon being energized with the voltage power source. Masuda's patent devotes much time and goes through great pains to make these conductors connect through tunnels and holes, through dielectrics, in order to connect all conductors. Based on the intended use of the electrodes to produce the electric field, there is no motivation whatsoever to modify the reference to include at least one conductive fiber that is free from connection to a voltage power source as claimed by Applicants and/or positioned to enhance an electric field. A conductive fiber free from connection to a voltage power source in Masuda's electric field device would not function as intended and would not produce an electric field as is intended by Masuda. In Masuda, electric field is strongest at the sides of the conductors, where most of the work is done. Moreover, the electric field is across the dielectric. This is markedly different from Applicant conductive fibers, wherein the electric field occurs in a volume of gas.

Thus, independent Claims 1, 14, and 25 are patentably distinguished from Masuda since Masuda fails to teach or suggest at least one conductive fiber secured to the body and positioned to enhance an applied electric field, wherein the at least one conductive fiber is free from connection to a voltage power source. Likewise, dependent Claims 5-11, 13, 18-19, and 23-24 are patentably distinguished from Masuda since these claims also include the

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features recited in the base claim. Accordingly, for at least these reasons, Applicants respectfully request reconsideration and withdrawal of the rejection.

In addition, it is also pointed out that Independent Claim 25 is further distinguished because Masuda does not teach or suggest a process for reducing an electric field breakdown point of a gas. If anything, Masuda can be interpreted as teaching away from a process for reducing the breakdown reducing the electric field breakdown point of a gas since it is generally directed to generating an electric field by energizing electrodes with a voltage power source. All of the electrodes are energized by connection with a voltage source presumably to maximize the electric field generated. Since Masuda is concerned with generating an electric field, it seems counterintuitive to include conductive fibers in its electric field device since these clearly would not generate an electric field as intended by Masuda. As such, there is no disclosure or suggestion or reducing the electric field breakdown point of a gas.

For similar reasons, Masuda fails to teach or suggest newly added Claim 37, which includes the feature of at least one conductive fiber is free from connection to a voltage power source. Moreover, it is submitted that Masuda fails to teach or suggest a conductive fiber comprises a length of less than about 10 millimeters. All of the electrodes shown and described in Masuda are likely to be significantly larger than 10 millimeters. As shown in the various figures and described in the specification, the electric field devices comprise electrodes that generally run the length or circumference of the electric field devices. Because of this, coupled with the fact that Masuda is directed to electric field devices that require the use of electrodes to generate an electric field capable of generating coronal discharges, Masuda fails to teach or suggest the use of conductive fibers less than about 10 millimeters. The electrodes as taught and suggested by Masuda must have sufficient length to generate an electric field of sufficient strength to operate as intended.

As all elements of independent Claims 1, 14, and 15 have not been taught or suggested, these claims are patentable over the cited references. Given that Claims 2, 5-8, 10, 12-13, 15, 18, 20-24, 27, and 29-36 each further limit and ultimately depend from one of

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these independent claims, they too are patentable.

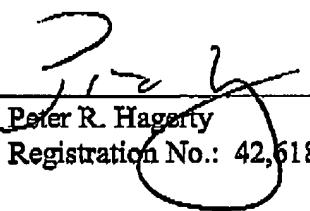
It is believed that the foregoing remarks fully comply with the Final Office Action and place the application in condition for immediate allowance, which action is earnestly solicited.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicants' Attorneys.

Respectfully submitted,

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